

CLAIMS

1. A method for isolating an analyte contained in a gas phase, comprising the steps of:

a) providing a gas permeable first carrier matrix, wherein a first binding partner specific for an analyte is contained in said first carrier matrix but is not bound to said first carrier matrix,

b) contacting a gas phase suspected of containing said analyte with said first carrier matrix such that said analyte binds to said first binding partner, and

c) eluting any complex consisting of said analyte and said first binding partner and any uncomplexed first binding partner from said first carrier matrix.

2. The method according to claim 1, wherein after step c) said analyte is released from said complex of said analyte and said first binding partner.

3. A method for immunologically detecting an analyte contained in a gas phase, comprising the steps of:

a) providing a first carrier matrix, wherein a first binding partner specific for an analyte is contained in said first carrier matrix but is not bound to said first carrier matrix,

b) contacting a gas phase suspected of containing said analyte with said first carrier matrix such that said analyte binds to said first binding partner,

c) eluting any complex consisting of said analyte and said first binding partner and any uncomplexed first binding partner from said first carrier matrix, and

d) determining any eluted complex or uncomplexed first binding partner as a measure of the amount of analyte present.

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4. The method according to claim 3, wherein said first carrier matrix is gas- and liquid-permeable.

5. The method according to claim 3, further comprising labeling the first binding partner, and determining any labeled eluted complex or labeled uncomplexed first binding partner as a measure of the amount of analyte present.

6. The method according to claim 5, wherein said first binding partner is enzymatically labeled.

7. Method according to claim 3, further comprising,
a) binding any eluted first binding partner to a labeled second binding partner specific for said first binding partner, and
b) determining any bound label as a measure of the amount of analyte present,

wherein said first binding partner is unlabeled.

8. The method according to claim 7, wherein said first binding partner is bound to said labeled second binding partner in a second carrier matrix and said determination of said label is in a third carrier matrix.

9. The method according to claim 1, wherein said first carrier matrix has a liquid content of 10 to 90%.

10. The method according to claim 3, wherein said first carrier matrix has a liquid content of 10 to 90%.

11. The method according to claim 9, wherein said analyte is first nonspecifically adsorbed to an essentially dry matrix and then a liquid is added allowing an immune reaction between said

analyte and said first binding partner to occur.

12. The method according to claim 10, wherein said analyte is first nonspecifically adsorbed to an essentially dry matrix and then a liquid is added allowing an immune reaction between said analyte and said first binding partner to occur.

13. The method according to claim 9, wherein said liquid is an aqueous solution containing 0 to 30% polar organic solvent and 0 to 1% detergent.

14. The method according to claim 10, wherein said liquid is an aqueous solution containing 0 to 30% polar organic solvent and 0 to 1% detergent.

15. The method according to claim 3, wherein said first binding partner is an antibody or Fab' fragment thereof.

16. The method according to claim 3, wherein said first binding partner is a receptor which binds said analyte.

17. The method according to claim 3, wherein said first carrier matrix is a hydrophilic or hygroscopic material.

18. The method according to claim 17, wherein said hydrophilic or hygroscopic material is the form of particles or fibers.

19. A device for obtaining and/or immunologically detecting an analyte contained in a gas phase, comprising

- a) a gas- and liquid-permeable carrier matrix containing a first binding partner of an analyte in elutable form, and
- b) a capture system for an eluate in which a complex

consisting of said analyte and said first binding partner or a noncomplexed first binding partner can be determined or isolated.

20. The device according to claim 19, further comprising a vacuum pump to draw a sample gas containing an analyte across said gas- and liquid-permeable carrier matrix, and an eluting liquid.

21. The device according to claim 19, wherein said gas- and liquid-permeable carrier matrix has a gas permeability between 10 ml/min to 10 l/min.

22. The device according to claim 19, wherein said gas- and liquid-permeable carrier matrix is in a planar form or in the form of laminar layers.

23. A method for detecting the presence of a substance in a gas phase in a gas permeable, enclosed package, comprising the steps of

a) drawing a sample of a gas surrounding a gas permeable, enclosed package suspected of containing a substance of interest,

b) contacting a first carrier matrix with said sample of gas, wherein a first binding partner, specific for an analyte of said substance, is contained in said first carrier matrix but not bound to said first carrier matrix,

c) binding any analyte of said substance present in said sample of gas to said first binding partner,

d) eluting any complex consisting of said analyte and said first binding partner and any uncomplexed first binding partner from said first carrier matrix, and

e) determining any eluted complex or uncomplexed first binding partner as a measure of the presence of said substance.

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24. The method according to claim 23, wherein said substance is selected from the group consisting of nitroglycol, nitroglycerin, nitropenta, hexogen, octogen, tetranitromethane, trinitrotolulene, trinitrobenzene, trinitroanisol, triaminotrinitrotolulene, hexanitrostilben, polycyclic aromatic hydrocarbons, polychlorated biphenyls, herbicides and pesticides.

25. The method according to claim 23, wherein said substance is an illegal drug of abuse.

26. The method according to claim 25, wherein said substance is selected from the group consisting of cocaine, heroin, cannabinol, cannabidiol and tetrahydrocannabinol.

27. The method according to claim 23, wherein said enclosed package is luggage.